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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification<sup>4</sup> :</b> A61K 39/12, 39/17, 39/215 A61K 39/255, 39/39	<b>A1</b>	<b>(11) International Publication Number:</b> WO 86/ 0081: <b>(43) International Publication Date:</b> 13 February 1986 (13.02.86)
<b>(21) International Application Number:</b> PCT/HU85/00048 <b>(22) International Filing Date:</b> 29 July 1985 (29.07.85) <b>(31) Priority Application Number:</b> 2919/84 <b>(32) Priority Date:</b> 30 July 1984 (30.07.84) <b>(33) Priority Country:</b> HU  <b>(71)(72) Applicant and Inventor:</b> CSATÁRY, László [HU/HU]; Deres u. 7, H-1124 Budapest (HU). <b>(74) Agent:</b> PATENTBUREAU DANUBIA; Bajcsy-Zsilinszky ut 16, H-1368 Budapest (HU).  <b>(81) Designated States:</b> AT (European patent), AU, BE (European patent), BR, CH (European patent), DE (European patent), DK, FI, FR (European patent), GB (European patent), IT (European patent), JP, LU (European patent), MC, NL (European patent), NO, RO, SE (European patent), SU, US.		<b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> THERAPEUTIC PREPARATIONS FOR TREATMENT OF CERTAIN VIRAL AND OTHER DISEASES AND THE PREPARATION OF THE SAME  <b>(57) Abstract</b>  Therapeutic preparations against certain viral and other diseases of humans. The preparations are specified as formulas containing attenuated Newcastle disease virus, Marek's disease virus, avian bronchitis virus or avian encephalitis virus, mixed in carrier substance generally used in human pharmacology, if desired along with one or more optional potentiating preparations. Another object of the invention is the use of the above viruses in the treatment of virus diseases as well as malignant and benign tumours and collagen diseases.		

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THEREPAUTIC PREPARATIONS FOR TREATMENT OF CERTAIN  
VIRAL AND OTHER DISEASES AND THE PREPARATION OF  
THE SAME

Technical field

5           The present invention relates to a set of therapeutic preparations (further on Preparation(s) ) for the treatment of certain viral and other diseases, together with the complete technics of their production, including all materials and methods used.

10           The Preparations are effective against various pathological conditions caused by the Herpes group of viruses, and against certain malignant and benign tumours and collagen diseases as well.

Background art

15           Inactivated or live attenuated viruses have long been used all over the world for the specific prevention of several viral diseases of humans and animals. We have found that certain attenuated viral vaccines, prepared against some viral diseases of animals (Newcastle disease, Marek's  
20           disease, avian bronchitis, avian encephalitis) had a distinct therapeutic effect against various human diseases of known viral or unknown etiology.

Disclosure of invention

25           Accordingly the object of the present invention is a set of preparations containing attenuated (or killed) Newcastle disease virus, Marek's disease virus, avian bronchitis virus or avian encephalitis virus, mixed in a carrier which is acceptabl for use in humans. The present invention relates als to all materials and methods used  
30           in the production of all preparations.

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The Preparations have already been used with very good result in the conditions listed below:

- 5 1. The Preparation containing attenuated Newcastle disease virus was active against the following conditions:
  - 10 a) Infections caused by viruses of the Herpes group, such as Herpes simplex I and II; Herpes zooster; Cytomegalovirus; infectious mononucleoses (Epstein-Barr virus)
  - b) Aphthomatitis
  - c) Verruca vulgaris
  - d) Infantile pharyngeal papilloma
  - e) Human adenocarcinomas
  - f) Collagen diseases (e.g. nodous polyarteritis)
  - 15 g) Rheumatic arthritis
2. The Preparation containing attenuated Marek's disease virus acted against the following conditions:
  - a) Various human cancers (mainly adenocarcinomas)
  - 20 b) Infections caused by viruses of the Herpes group as listed above (1.a)
3. The Preparation containing attenuated avian bronchitis virus was active against the following conditions:
  - a) Various human cancers
  - 25 b) Infections caused by the above listed (1.a) viruses of the Herpes group.
4. The Preparation containing attenuated avian encephalitis virus was active against the following conditions:
  - a) Various human cancers

30 While most vaccines used for specific disease prevention in humans contain killed (inactivated) virus, all Preparations contain live attenuated virus. The possible mechanism of action of the Preparations is thus either an interference with the

virulent viruses responsible for the actual disease, or a highly efficient aspecific stimulation of the natural protective mechanisms operative in the organism involved by disease.

5           The Preparations are produced by suspending live attenuated or inactivated, purified or highly purified and concentrated viruses in one of the carrier substances generally used in human pharmacology. The Preparations may be supplemented with potentiating drugs (e.g. tranquilizers).

10           The optimal form of delivery of the Preparations is in a freeze-dried form, in sealed ampoules, with the diluent supplied in a separate vial. In this form, the Preparations can be stored at room temperature for a practically unlimited time. Another forms of delivery are in solution, suppository, capsule, emulsion, suspension, ointment, etc. These should  
15           be stored in cold, for their activity may decay rapidly at room temperature.

          The dosage of the Preparations depends of their actual composition and form, on the patient's general condition, and on stage (severity) of the disease actually treated.

20           The Preparations are non-toxic, and have no side effect whatever.

          The Preparations were tested in humans and animals, and showed a great therapeutic efficiency in both clinical and experimental trials.

Claims

1. Therapeutic preparation for the treatment of viral diseases and against malignant and benign tumours and collagen diseases characterized by containing live attenuat d  
5 viruses selected from the group consisting of Newcastle disease virus, Marek's disease virus, avian bronchitis virus and avian encephalitis virus.
2. The preparation according to claim 1 characterized by containing at least one carrier.
- 10 3. Use of Newcastle disease virus, Marek's disease virus, avian bronchitis virus and avian encephalitis virus in the treatment of viral diseases, against malignant and benign tumours and collagen diseases.
- 15 4. The use of viruses according to claim 3 in the treatment of diseases caused by the Herpes group of viruses.

# INTERNATIONAL SEARCH REPORT

International Application No PCT/HU 85/00048

<b>I. CLASSIFICATION &amp; SUBJECT MATTER</b> (If several classification symbols apply, indicate all) *		
According to International Patent Classification (IPC) or to both National Classification and IPC		
IPC <sup>4</sup> A 61 K 39/12, 39/17, 39/215, 39/255, 39/39		
<b>II. FIELDS SEARCHED</b>		
Minimum Documentation Searched *		
Classification System	Classification Symbols	
Int. Cl. <sup>4</sup>	A 61 K 39/12, 39/17, 39/215, 39/255	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched *		
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT*</b>		
Category *	Citation of Document, ** with Indication, where appropriate, of the relevant passages **	Relevant to Claim No. *
X	Patent Abstracts of Japan, unexamined applications, section C, vol. 7, no. 219, issued 30 March 1983, The Patent Office Japanese Government, page 76 C 188, see Kokai-no. 58-116 422 (Midori Juji K.K.).	(1,2)
X	US, A, 3 548 054 (R.E. BOWEN et al.) -15 December 1970 (15.12.70), see column 2, line 10.- column 3, line 4.	(1,2)
X	GB, A, 1 274 820 (TAKEDA YAKUHI KOGYO KABUSHIKI KAISHA) 17 May 1972 (17.05.72), see claims 1,11-13.	(1,2)
X	AT, B, 346 476 (M. SEVOIAN) 10 November 1978 (10.11.78), see claims 1,13.	(1,2)
X	US, A, 3 674 861 (A.E. CHURCHILL) 04 July 1972 (04.07.72), see abstract; claims 12,13; examples 2,5,6; column 1, lines 1-6.	(1,2)
<p>* Special categories of cited documents: **</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"A" document member of the same patent family</p>		
<b>IV. CERTIFICATION</b>		
Date of the Actual Completion of the International Search		Date of Mailing of this International Search Report
11 October 1985 (11.10.85)		16 October 1985 (16.10.85)
International Searching Authority		Signature of Authorized Officer
AUSTRIAN PATENT OFFICE		<i>Imbshauer</i>



## III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
A	EP, A1, 0 086 025 (AKZO N.V.) 17 August 1983 (17.08.83), see claims 1,3.	(1,2)
A	US, A, 4 357 320 (P. APOUTOWEIL, M.M. KRAS-SELT) 02 November 1982 (02.11.82), see abstract; claims 1-7.	(1,2)
A	US, A, 4 049 794 (O.-C. STRAUB) 20 September 1977 (20.09.77), see abstract; column 1, line 65 - column 4, line 49.	(1,2)
A	DE, A, 2 120 929 (MERCK & CO INC.) 18 November 1971 (18.11.71), see claims 1,2.	(1,2)
A	DE, A, 1 492 083 (PHILIPS ROXANE INC.) 07 August 1969 (07.08.69), see page 1, line 1 - page 4, line 16.	(1,2)
A	AT, B, 343 797 (H. STICKL) 12 June 1978 (12.06.78), see claim 1.	(1,2)
A	FR, A, 2 444 467 (GIST-BROCADES N.V.) 18 July 1980 (18.07.80), see claims 1,5,6; page 8, lines 5-24.	(1,2)
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## FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET

V. ☐ OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE

This international search report has not been established in respect of certain claims under Article 17(2) (a) for the following reasons:

1. ☒ Claim numbers 3, 4 because they relate to subject matter not required to be searched by this Authority, namely:

Methods for treatment of the human or animal body by therapy -  
see Article 17(2)a)i) and Rule 39.1, iv).

2. ☐ Claim numbers..... because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claim numbers..... because they are dependent claims and are not drafted in accordance with the second and third sentences of PCT Rule 6.4(a).

VI. ☐ OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This International Searching Authority found multiple inventions in this international application as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.
2. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:
3. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:
4. ☐ As all searchable claims could be searched without effort justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

## Remark on Protest

- ☐ The additional search fees were accompanied by applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

Anhang zum internationalen Recherchenbericht über die internationale Patentanmeldung Nr.

In diesem Anhang sind die Mitglieder der Patentfamilien der im obengenannten internationalen Recherchenbericht angeführten Patentdokumente angegeben. Diese Angaben dienen nur zur Unterrichtung und erfolgen ohne Gewähr.

Annex to the International Search Report on International Patent Application No. PCT/HU 85/00048

This Annex lists the patent family members relating to the patent documents cited in the above-mentioned International search report. The Austrian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Annexe au rapport de recherche internationale relatif à la demande de brevet international n°.

La présente annexe indique les membres de la famille de brevets relatifs aux documents de brevets cités dans le rapport de recherche internationale visé ci-dessus. Les renseignements fournis sont donnés à titre indicatif et n'engagent pas la responsabilité de l'Office autrichien des brevets.

Im Recherchenbericht angeführtes Patent- dokument Patent document cited in search report Document de brevet cité dans le rapport de recherche	Datum der Veröffentlichung Publication date Date de publication	Mitglied(er) der Patentfamilie Patent family member(s) Membre(s) de la famille de brevets	Datum der Veröffentlichung Publication date Date de publication
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